

IN RE: APPLICATION OF COLBERT ET AL.
PRELIMINARY AMENDMENT ACCOMPANYING REQUEST FOR FILING DIVISIONAL APPLICATION UNDER
37 C.F.R. § 1.53(b)

This application is a division of co-pending prior application Serial No. 10/000,746, filed on November 30, 2001, which is a continuation of prior application Serial No. 09/242,040 filed on September 13, 1999, which is the 35 U.S.C. § 371 national application of International Application Number PCT/US97/13896 filed on August 8, 1997, which designated the United States, claiming priority to provisional U.S. patent application Serial Number 60/023,732 filed on August 8, 1996. Each of the foregoing applications is commonly assigned to the assignee of the present invention and is hereby incorporated herein by reference in its entirety.

This application discloses subject matter related to the subject matter of U.S. patent application Serial Number 09/380,545, filed on September 3, 1999 in the name of Richard E. Smalley et al., entitled "Carbon Fibers Formed From Single-Wall Carbon Nanotubes," which application is commonly assigned to the assignee of the present invention and hereby incorporated herein by reference in its entirety.--

In the Claims

Please amend the claims as follows.

Please cancel claims 1-83 without prejudice or disclaimer to the subject matter thereof.

Please add the following new claims 84-93:

84. (new) A method for producing boron nitride coated fibers comprising:
a) supplying a boron nitride precursor to a fiber comprising a plurality of single-wall carbon nanotubes;
b) depositing a boron nitride coating on the fiber, wherein the boron nitride is formed from the boron nitride precursor; and
c) recovering the fibers coated with boron nitride.

85. (new) The method of claim 84 wherein the precursor comprises a chemical selected from the group consisting of tri-chloroborazine, diborane, NH₃, BC₁₃ and combinations thereof.

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86. (new) A method for producing boron nitride fibers comprising:
a) providing an array comprising single-wall carbon nanotubes;
b) introducing a catalyst to the array, wherein the catalyst is suitable for growing boron nitride fibers;

- c) supplying a boron nitride precursor under growth conditions;
d) growing boron nitride fibers onto the array; and
e) recovering the boron nitride tubes.

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87. (new) A method for producing alternating carbon-boron nitride fibers:
a) providing an array comprising single-wall carbon nanotubes;
b) introducing a catalyst to the array;
c) introducing a carbon-containing feedstock gas to the array under conditions suitable for growing single-wall carbon nanotubes;
d) removing the carbon-containing feedstock gas from the array;
e) introducing a boron nitride precursor gas under growth conditions suitable for growing boron nitride fibers;
f) removing the boron nitride precursor gas from the array; and
g) recovering fibers comprising nanotubes having alternating carbon and boron nitride walls.

88. (new) Single-wall carbon nanotubes surrounded at least in part by an outer wall comprising a hexagonal boron nitride lattice wall structure.

89. (new) Single-wall nanotubes comprising a hexagonal boron nitride lattice wall structure.

90. (new) A single wall nanotube comprising:

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- a) a first plurality of segments, wherein each segment of the first plurality is a single-wall carbon nanotube segment; and
- b) a second plurality of segments, wherein each segment of the second plurality is a boron nitride nanotube segment.

91. (new) A single wall nanotube comprising:

- a) a first segment, wherein the segment is a single-wall carbon nanotube segment;
and
- b) a second segment, wherein the segment is a boron nitride nanotube segment.

92. (new) A fiber comprising a plurality of single-wall nanotubes, wherein at least some of the plurality of single-wall nanotubes comprise:

- a) a first plurality of segments, wherein each segment of the first plurality is a single-wall carbon nanotube segment; and
- b) a second plurality of segments, wherein each segment of the second plurality is a boron nitride nanotube segment.

93. (new) A fiber comprising a plurality of single-wall nanotubes, wherein at least some of the plurality of single-wall nanotubes comprise:

- a) a first segment, wherein the segment is a single-wall carbon nanotube segment;
and
- b) a second segment, wherein the segment is a boron nitride nanotube segment.

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